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ANNUAL REPORT
OF
THE MINES DIVISION
OF THE
Department of Mines and Minerals
OF THE
PROVINCE OF ALBERTA
1960


Edmonton:
Printed by L. S. Wall, Queen's Printer



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Edmonton, Alberta,

February 13th, 1961.

TO THE HONOURABLE ERNEST C. MANNING,

Minister of Mines and Minerals

Sir:

I have the honour to submit the Annual Report of the Mines Division of the Department of Mines and Minerals for the year ending December 31st, 1960.

Respectfully submitted,

J. A. DUTTON,

Director of Mines

ANNUAL REPORT OF THE MINES DIVISION FOR THE YEAR ENDING DECEMBER 31st, 1960

The output of coal from the mines in the province was 2,404,093 tons, with a valuation of \$11,439,705. This shows a decrease of 145,424 tons, with a decrease in valuation of \$1,453,042, compared with the previous year. Of this output, 40,830 tons were used to make 44,111 tons of briquettes, valued at \$460,040, and 2,352 tons were used to make 1,216 tons of char, valued at \$15,336. This shows a decrease of 45,388 tons of briquettes made, with a decrease in valuation of \$505,683, compared with the previous year. The manufacture of char was carried out on an experimental basis, during the year.

In addition to the above tonnages, there were 275 tons of coal reported as mined by the Blackfoot Indians, at Gleichen, for their own use.

The disposition of coal, briquettes and char was as follows:

	Coal	Briquettes	Char
Sold for consumption in Alberta	845,806	10,568	244
Sold for consumption in other provinces	983,885	24,574	—
Sold to the United States	30,283	72	972
Sold to Japan	361,336	—	—
Sold to railway companies	1,045	7,390	—
Used making briquettes	40,830	—	—
Used making char	2,352	—	—
Used under colliery boilers	8,981	1,650	—
Used by colliery railways	673	—	—
Put to stock	419,224	1,721	—
Put to waste	151,884	—	—

The above tonnages include lifted from stock and waste heaps which are not included in the total output.

There were 69 subsurface and strip mines which produced coal during the year, employing 1,729 men who worked 366,970 shifts. This shows a decrease of 2 mines, an increase of 9 men, and a decrease of 10,900 shifts, compared with the previous year. There were 39 strip mines in operation which produced 1,183,850 tons. This shows a decrease of 30,503 tons from striping operations, compared with the previous year.

The number of mines using electrical power during the year, was 45. The following table shows the comparison of purchased electrical power by mines for the past ten years.

1951	50,956,876	1956	42,228,910
1952	58,317,942	1957	29,110,288
1953	58,500,593	1958	20,574,436
1954	50,668,597	1959	25,159,068
1955	44,932,173	1960	26,231,225

The total horsepower of electrical motors in use was 35,814 h.p., a decrease of 1,163 h.p., in comparison with 1959. The following table shows a breakdown of horsepower in use, both above and below ground.

Above Ground		Below Ground	
Duty	H.P.	Duty	H.P.
Hoisting	3,295	Pumping	2,058
Ventilation	1,179	Rope Haulage	571
Air Compressing	5,768	Conveying & Loading	658
Tippie & coal preparation plants	9,988	Cutting & Drilling	2,729
Miscellaneous	7,167	Miscellaneous	2,401
Total	27,397	Total	8,417

The figures below show the trend in the use of certain types of electrical equipment underground in mines, for the past ten years.

	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Cutting Machines	183	185	149	141	138	141	115	92	73	71
Battery Locomotives	46	47	42	42	42	43	36	31	26	22
Trolley Locomotives	29	31	27	25	23	24	22	21	18	8
Conveyors	82	83	50	41	45	55	46	45	38	30
Coal Drills	93	105	88	94	90	93	86	74	55	56
Face Loaders	11	12	10	10	10	9	12	13	13	15

Twenty-six quarries produced 1,581,156 tons of shale, clay, limestone, building stone and oil sands, a decrease of 237,001 tons compared with the previous year.

Four hundred and fifteen inspections were made under the terms of The Coal Mines Regulation Act, 327 in connection with The Workmen's Compensation Board Regulations and 66 under The Quarries Regulation Act, totalling 808 inspections.

Eleven mine air samples were collected and analyzed.

The total number of accidents reported was 39, all of which occurred in coal mines. The number of fatal accidents was 2 as compared with 1 in the previous year. This equals 0.832 fatalities per million tons of coal produced.

All complaints made to the Division were investigated.

There were seven prosecutions under The Coal Mines Regulation Act and conviction was obtained in each case.

Written examinations under The Coal Mines Regulation Act were held on June 7th, 1960, at Edmonton and Calgary with successful candidates as follows: 2 examiners, 1 second class mine electrician, 2 managers (strip mine), 3 foremen (strip mine) and 2 blasters (strip mine).

Written examinations under The Quarries Regulation Act were held at Edmonton and Calgary on June 7th, with successful candidates as follows: 1 manager and 4 foremen. In addition to these, 5 blasters certificates were issued to successful candidates on oral examinations held at different points throughout the year.

Three examinations were held for miners' certificates and 43 certificates were issued to successful candidates. In addition 26 substitute miners' certificates, 37 miners' provisional certificates and 97 miners' permits were granted, making a total of 203 certificates issued, which is an increase of 45 for the year.

On April 10th, the washhouse of Mine No. 1266, operated by Black Gem Coal Co. Ltd., Namao, was completely destroyed by fire. A new washhouse has since been built and is in use.

On July 26th, a fire of unknown origin destroyed the tipple, small coal screening and storage building of Mine No. 710, operated by East Trochu Coal Company, Trochu. At present the mine is not in operation.

On December 15th, an ignition of gas occurred at Mine No. 1727, operated by Whitemud Creek Coal Co. Ltd., when a workman started an electrically operated auxiliary fan in an atmosphere of explosive gas. The workman received burns to the hands and face. He was alone in the mine at the time.

During the year Mr. James Horne, Assistant Director of Mines, resigned for health reasons. He was succeeded by Mr. J. D. B. Brown, formerly District Inspector of Mines at Lethbridge.

The following is a list of improvements and installations at the various mines:

Burnstad Coal Co. Ltd., Round Hill, have added a D6 Caterpillar Tractor with blade and overhead loader and one Fairbanks Morse sump pump to their strip mine equipment.

Black Gem Coal Co. Ltd., Namao, have built a new wash-house, 24' x 16' in cross section to replace the one destroyed by fire.

Picardville Coal Co. (1960) Ltd., near Picardville, built a new tipple with rotary and shaker screens and storage bins. A weigh scale of 37,000 lbs. capacity and an office building were also built.

Blackstone Collieries Limited, Coalspur, have built a new tipple structure and a power plant building.

The Canmore Mines Limited, Canmore, installed one Joy 3 J.C.M. — 5 Continuous Miner, underground. They also completed additions to their tipple.

Conger Mine, Alix, installed one Jeffrey coal crusher and one Jeffrey Bucket elevator.

Consumers' Mine, Rosebud, installed one booster fan.

Nottal Brothers, Three Hills, installed a coal crusher and a short belt conveyor.

Lethbridge Collieries Limited, Shaughnessy, installed a 36" x 36" Jeffrey crusher and screens.

Champion Coal Co., Champion, installed a 12" x 18" Jeffrey Flexroll crusher and a main and tail haulage driven by air hoist.

Alberta Coal Sales, Taber, installed a TC12 Euclid angle-dozzer, Bucyrus Monighan 6160 dragline, and a Komatsud 120 angledozzer.

Coleman Collieries Ltd., Coleman, built a new diesel locomotive shed and a powder magazine at their Vicary Mine. The Baum jig was converted to a Feldspar jig and a C.M.I. centrifuge was installed.

Castle Coal Co., Blairmore, built a 60-ton bin, with screening plant and obtained a portable 125 c.f.m. Worthington compressor.

Red Deer Valley Coal Co. Ltd., Drumheller, installed one booster fan underground, complete with 20 H.P. motor and switchgear, also 5 inerteen filled capacitors.

Western Dominion Coal Mines Ltd., Sheerness, installed an additional Bucyrus Erie 50 B loading shovel.

Amalgamated Coals Ltd., East Coulee, installed a steel bin of 75 tons capacity and a 24" belt conveyor mounted on a steel trestle. They have also erected new 80 ton capacity steel bins for nut and egg sizes, but they are not yet in service.

Century Coals Ltd., East Coulee, have installed a 15 H.P. turbine pump in the sump at the base of the hoisting shaft, one new 14 B.U. Joy loader, one 10 ton Jeffrey trolley locomotive on the main haulage and a power line extension supplying power to the underground working through 6 - 75 K.V.A. 13800/2300 volt transformers.

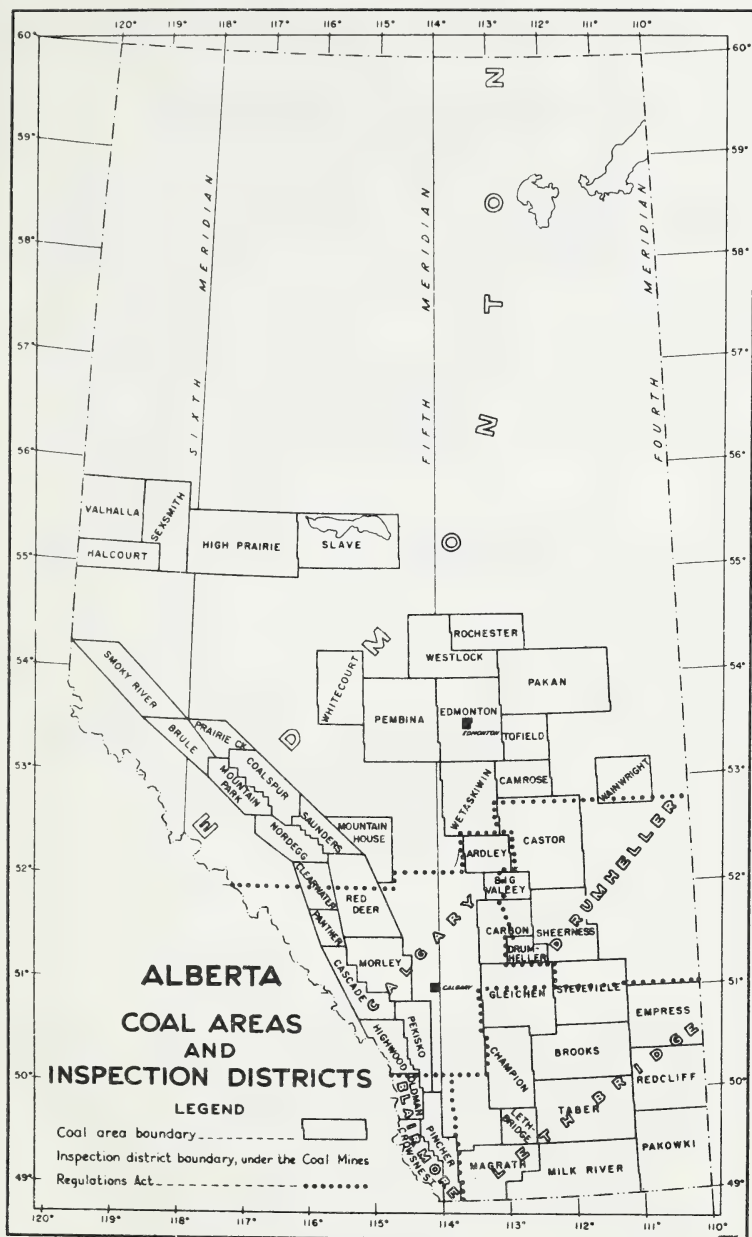
NUMBER OF MINES OPERATED, OPENED AND ABANDONED
DURING THE YEAR ACCORDING TO AREAS AND KIND OF COAL

Director of Mines - J.A. Dutton, Natural Resources Building,
Edmonton, Alberta. Telephone - CA 9-3802.

Assistant Director of Mines - J.D.B. Brown, Natural Resources
Building, Edmonton, Alberta. Telephone - CA 9-3803.

Electrical Inspector of Mines - J.S. Watson, Natural Resources
Building, Edmonton, Alberta. Telephone - CA 9-3806

Inspection District	Area	Area Number	Character of Coal	No. of Mines operating during the year.	No. of Mines opened during the year.	No. of Mines abandoned during the year.	Name and Address of District Inspectors of Mines.
Blairmore Lethbridge	Crownsnest	12-3	Bituminous	8	1	1	P. Melson, Blairmore, Alta. Tel. 2160.
	Brooks	3	Sub-bituminous	2	..	..
	Champion	9	Sub-bituminous	2	..	..
	Lethbridge	20	Bituminous	2	..	1	
	Redcliff	34	Sub-bituminous	1	..	..
	Taber	41	Sub-bituminous	1	..	..
Calgary	Ardley	1	Sub-bituminous	3	J.J. Kubin, Provincial Bldg. 101 - 8th Ave.S.E. Calgary, Alta. Tel. AMherst9-666
	Carbon	6	Sub-bituminous	7	..	..
	Cascade	7	Bituminous	1	..	..
	Gleichen	17	Sub-bituminous	2	..	..
Drumheller	Castor	8	Sub-bituminous	8	..	1	R. Shaw, Provincial Bldg., Centre St.&2nd Ave Drumheller, Alta. Tel. Vally 3-2415
	Drumheller	14	Sub-bituminous	9	1	1	
	Sheerness	38	Sub-bituminous	1	..	..
Edmonton	Camrose	5	Sub-bituminous	2	A.L. Lister Natural Resources Bldg., Edmonton, Alta. Tel. CAPITAL 9-3805
	Coalspur	11	Bituminous	2	1	..	
	Edmonton	15	Sub-bituminous	4	1	..	
	Halcourt	18	Bituminous	1	..	..
	Pembina	31	Sub-bituminous	4	1	..	
	Tofield	42	Sub-bituminous	4	1	..	
	Westlock	45	Sub-bituminous	3	1	..	
	Wetaskiwin	46	Sub-bituminous	1	..	..
	Whitecourt	47	Sub-bituminous	1	..	1	
	Total.....	69	7	5	



PARTICULARS WITH REFERENCE TO THE COAL MINING INDUSTRY IN THE
PROVINCE OF ALBERTA DURING THE YEAR ENDING DECEMBER 31, 1960.

SUMMARY OF STATISTICS

Number of tons of coal produced.....	2,404,093.
Total valuation of coal produced.....	\$ 11,439,705
Number of tons of briquettes made.....	44,111
Total valuation of briquettes made.....	\$ 460,040
Number of tons of char produced.....	1,216
Total valuation of char produced.....	\$ 15,336
Number of mines in operation.....	69
Number of mines opened.....	7
Number of mines abandoned.....	5
20 mines or 28.98% of the total operating produced	0.27% of the output
13 mines or 18.84% of the total operating produced	1.26% of the output
6 mines or 8.70% of the total operating produced	1.72% of the output
15 mines or 21.74% of the total operating produced	12.31% of the output
4 mines or 5.80% of the total operating produced	11.09% of the output
5 mines or 7.24% of the total operating produced	23.85% of the output
4 mines or 5.80% of the total operating produced	28.65% of the output
2 mines or 2.90% of the total operating produced	20.85% of the output
Average number of persons employed above ground.....	417
Average number of persons employed below ground.....	1,007
Average number of persons employed at strip mining.....	305
Average number of days worked.....	200
Total number of manshifts.....	366,970
Number of separate accidents causing loss of life.....	2
Number of fatal accidents above ground.....	1
Number of fatal accidents below ground.....	1
Number of serious accidents above ground.....	2
Number of serious accidents below ground.....	14
Number of slight accidents above ground.....	1
Number of slight accidents below ground.....	20
Total purchased electric power (kilowatt hours).....	26,231,225
Number of prosecutions instituted.....	7
Number of trade name certificates issued.....	9
Number of provisional second class certificates issued.....	21
Number of provisional third class certificates issued.....	1
Number of provisional electricians' certificates issued.....	3
Number of provisional foremen's certificates issued.....	14
Number of provisional blasters' certificates issued.....	1
Number of provisional miners' certificates issued.....	37
Number of miners' permits issued.....	97
Number of miners' certificates issued.....	43
Number of third class certificates issued.....	3
Number of second class mine electricians' certificates issued.....	1
Number of managers' certificates issued.....	2
Number of foremen's certificates issued.....	1
Number of blasters' certificates issued.....	...
Number of first class certificates issued up to Dec. 31/60.....	313
Number of second class certificates issued up to Dec. 31/60.....	624
Number of third class certificates issued up to Dec. 31/60.....	1,856
Number of mine surveyors' certificates issued up to Dec. 31/60.....	249
Number of first class mine electricians' certificates issued up to Dec. 31/60.....	170
Number of second class mine electricians' certificates issued up to Dec. 31/60.....	136
Number of managers' certificates (strip mine) issued up to Dec. 31/60.....	163
Number of foremen's certificates (strip mine) issued up to Dec. 31/60.....	233
Number of blasters' certificates (strip mine) issued up to Dec. 31/60.....	23
Number of miners' certificates issued up to Dec. 31/60.....	20,987

PARTICULARS WITH REFERENCE TO QUARRIES IN THE
PROVINCE OF ALBERTA DURING THE YEAR ENDING DECEMBER 31, 1960.

SUMMARY OF STATISTICS

Number of tons of shale, clay and bentonite produced.....	601,926
Number of tons of limestone and building stone produced.....	941,991
Number of tons of oil-sands produced.....	37,239
Number of quarries in operation.....	26
Number of quarries opened.....	9
Number of quarries abandoned.....	...
Number of persons employed.....	146
Average number of days worked.....	99
Total number of manshifts.....	23,455
Number of pounds of explosives used.....	142,587
Number of pounds of ammonia nitrate used.....	123,879
Number of detonators used.....	18,723
Number of shots fired.....	11,332
Number of primers used.....	671
Number of missed fire shots.....	6
Amount of prima cord used (feet).....	63,850
Number of provisional foremen's certificates issued.....	9
Number of managers' certificates issued.....	1
Number of foremen's certificates issued.....	4
Number of blasters' certificates issued.....	5
Number of managers' certificates issued up to December 31st, 1960.....	19
Number of foremen's certificates issued up to December 31st, 1960.....	28
Number of blasters' certificates issued up to December 31st, 1960.....	53

THE MINES DIVISION

ANNUAL PRODUCTION AND VALUATION OF COAL FROM MINES
IN THE PROVINCE OF ALBERTA
For the Years 1941 to 1960 Inclusive

Year	Output Tons	Valuation Dollars
1941.....	6,970,064	\$ 19,337,420
1942.....	7,754,279	22,562,352
1943.....	7,677,982	22,624,410
1944.....	7,427,433	26,741,357
1945.....	7,801,248	27,699,333
1946.....	8,824,455	33,197,261
1947.....	8,074,596	36,317,343
1948.....	8,111,013	41,875,044
1949.....	8,616,983	44,541,538
1950.....	8,118,206	41,631,579
1951.....	7,661,276	41,000,953
1952.....	7,194,472	39,974,318
1953.....	5,917,423	32,158,435
1954.....	4,859,136	26,349,275
1955.....	4,456,578	23,486,399
1956.....	4,329,639	23,283,966
1957.....	3,155,354	17,287,229
1958.....	2,519,939	12,778,111
1959.....	2,549,517	12,892,747
1960.....	2,404,093	11,439,705

PER CAPITA PRODUCTION OF MINES IN THE PROVINCE
For the Years 1941 to 1960 Inclusive

Year	Gross Tons of coal mined	Total Average No. of men employed	Tons of coal mined per man employed	Average No. of employed men underground	Tons of coal mined per man employed underground
1941...	6,970,064	7,714	903	6,916	1,007
1942...	7,754,279	8,040	964	5,865	1,322
1943...	7,677,982	8,636	889	6,197	1,160
1944...	7,427,433	8,375	887	5,867	1,135
1945...	7,801,248	8,309	939	5,752	1,298
1946...	8,824,455	8,583	1,028	5,897	1,187
1947...	8,074,596	8,772	920	6,090	1,017
1948...	8,111,013	8,865	915	5,702	946
1949...	8,616,983	8,682	993	5,534	1,025
1950...	8,118,206	7,999	1,015	4,990	1,006
1951...	7,661,276	7,339	1,044	4,457	1,084
1952...	7,194,472	6,936	1,037	4,211	1,070
1953...	5,917,423	5,760	1,027	3,386	998
1954...	4,859,136	4,719	1,030	2,733	999
1955...	4,456,578	3,801	1,172	2,198	1,070
1956...	4,329,639	3,443	1,258	1,963	1,185
1957...	3,155,354	2,795	1,129	1,634	1,084
1958...	2,519,939	2,021	1,247	1,146	1,111
1959...	2,549,517	1,720	1,482	960	1,391
1960...	2,404,093	1,729	1,390	1,007	1,212

CLASSIFICATION OF OUTPUT DURING THE YEARS 1941 to 1960 INCLUSIVE

Year	Domestic	Sub-Bituminous	Bituminous	Coal used in Coke Production	Eriquettes	Coke
1941.....	2,713,254	565,453	3,671,357	105,390	126,188	70,354
1942.....	3,212,113	733,547	3,807,619	107,110	197,905	71,572
1943.....	3,416,037	791,952	3,469,993	101,132	222,106	67,348
1944.....	3,146,801	729,427	3,551,205	101,633	253,592	67,821
1945.....	...	3,200,185	4,600,763	64,280	250,274	43,180
1946.....	...	3,434,859	5,389,596	64,878	275,646	43,206
1947.....	...	3,237,220	4,837,376	81,128	282,898	52,627
1948.....	...	3,190,217	4,920,796	78,795	321,574	45,718
1949.....	...	3,121,656	5,495,327	91,361	460,643	54,922
1950.....	...	3,325,186	4,793,020	23,079	409,855	16,637
1951.....	...	3,001,987	4,659,289	6,957	345,768	3,959
1952.....	...	2,815,850	4,378,622	3,474	661,862	574
1953.....	...	2,399,924	3,517,499	...	665,556	...
1954.....	...	2,456,951	2,402,185	...	635,501	...
1955.....	...	2,341,686	2,114,892	...	435,785	...
1956.....	...	2,264,916	2,064,723	...	525,202	...
1957.....	...	1,889,510	1,265,844	...	265,645	...
1958.....	...	1,685,603	834,256	...	128,512	...
1959.....	...	1,734,698	814,819	...	128,512	...
1960.....	...	1,540,576	863,517	...	99,499	...
				* 2,352	44,111	* 1,216

* Char

Amount of Coal Sold During the Years 1941 to 1960 Inclusive for Consumption in:

Year	Alberta	B.C.	Sask.	Manitoba	Ontario	Quebec	Railways	U.S.A.	China and Japan	Total
1941.....	1,335,606	304,928	1,052,913	430,663	234,606	...	3,090,290	32,742	...	6,481,748
1942.....	1,447,795	652,222	1,259,669	560,336	231,258	...	2,864,566	98,197	...	7,171,063
1943.....	1,560,212	864,911	1,455,612	627,368	1,190	...	2,098,535	444,627	...	7,071,753
1944.....	1,424,293	678,960	1,225,075	533,027	10,163	...	2,583,101	267,728	...	6,742,613
1945.....	1,567,940	868,396	1,242,001	511,882	278,814	...	2,416,803	162,698	...	7,098,928
1946.....	1,608,296	982,113	1,449,002	658,733	348,137	...	2,895,207	137,271	...	8,136,694
1947.....	1,671,130	899,403	1,475,006	583,414	162,896	...	2,504,604	91,235	...	7,433,989
1948.....	1,593,629	945,700	1,413,283	625,009	202,520	58	2,312,273	84,495	12,192	7,377,944
1949.....	1,614,306	891,132	1,232,890	629,456	187,976	...	3,012,425	45,972	200,947	7,377,944
1950.....	1,672,519	873,558	1,366,723	586,920	312,563	...	2,308,365	105,765	3,475	7,617,632
1951.....	1,427,114	898,533	1,322,162	492,737	182,753	...	2,443,326	80,270	...	7,226,443
1952.....	1,234,307	1,021,484	1,211,716	364,924	126,381	...	2,085,365	71,817	44,317	6,691,212
1953.....	1,045,482	859,385	1,034,594	274,758	73,117	...	1,625,783	47,119	1,588	6,417,582
1954.....	1,064,817	891,194	995,882	292,455	85,836	...	743,743	33,124	...	4,960,238
1955.....	1,080,379	932,764	893,377	293,719	90,727	...	431,639	32,941	...	4,107,051
1956.....	1,020,538	860,329	871,719	304,918	75,029	...	385,368	45,692	...	3,755,546
1957.....	876,395	672,527	680,297	217,480	68,379	120	152,693	46,079	...	3,563,733
1958.....	836,535	532,911	584,025	226,302	54,887	165	56,420	37,154	40,745	2,784,760
1959.....	874,622	437,118	549,663	239,503	52,828	122	39,122	33,455	21,952	2,352,308
1960.....	845,806	379,668	362,383	201,372	40,305	80	1,045	30,283	124,719	2,351,110
						157			361,336	2,222,355

NOTE: Included in the above totals are the following tonnages:

Ships Bunkers

1943.....	49,298
1944.....	20,296
1945.....	20,394
1946.....	21,770
1947.....	4,107

Coal Produced by Years from 1956 to 1960

BITUMINOUS COAL FIELD

Areas	1956	1957	1958	1959	1960
Group 1:					
Cascade.....	220,564	203,993	128,922	179,985	210,061
Group 2:					
Crowsnest.....	1,210,036	641,930	415,151	410,005	533,350
Mountain Park...	116,656	...	1,121	...	...
Group 3:					
Coalspur.....	366,305	317,885	227,982	144,724	1,983
Halcourt.....	755	168	441	134	216
Lethbridge.....	144,603	97,359	59,565	79,971	117,907
Pekisko.....	5,330	4,509	1,074	...	...
Frairie Creek...	294	...	...	...	...
No Area.....	180	...	...	...	...
Total.....	2,064,723	1,265,844	834,256	814,819	863,517

SUB-BITUMINOUS COAL FIELD

Group 4:					
Ardley.....	56,114	45,334	43,411	43,688	44,713
Big Valley.....	1,695	713	122	...	...
Brooks.....	34,499	19,206	14,788	12,758	10,201
Carbon.....	42,944	37,266	34,814	32,952	24,304
Champion.....	6,817	6,729	7,212	7,188	6,236
Drumheller.....	905,717	763,673	590,860	571,154	467,517
Edmonton.....	174,808	141,208	119,682	122,595	101,403
Gleichen.....	6,225	5,579	4,927	4,159	2,870
Pembina.....	124,979	115,682	93,134	117,458	79,486
Taber.....	50,134	35,378	27,415	40,219	54,564
Wetaskiwin.....	407	1,499	3,000	4,634	4,088
Whitecourt.....	6	294	245	102	106
Group 5:					
Camrose.....	41,922	35,550	33,761	33,592	30,997
Castor.....	602,855	478,808	535,497	541,324	499,217
Redcliff.....	4,396	3,816	3,302	2,915	3,079
Sheerness.....	147,920	154,559	136,907	167,051	179,437
Tofield.....	54,122	35,348	27,689	23,684	19,052
Westlock.....	9,356	8,868	8,917	9,225	13,306
Total.....	2,264,916	1,889,510	1,685,683	1,734,698	1,540,576

THE MINES DIVISION

How the total Output of BITUMINOUS COAL from the Province was disposed of by areas during 1960

Areas	Sold for Consumption in:								Total Sales	Used under Colliery Boilers	Used by Colliery Railways	Used making Brickets and Char	Put to Stock	Put to Waste	Lifted from Stock	Lifted from Waste	Total Output	
	Alberta	Sask.	British Columbia	Manitoba	Ontario	Quebec	United States	Japan										Sold to Railway Companies
Group 1: Cascade	2656	89	15917	2558	11615	...	7097	110958	958	181878	4035	673	31694	110166	...	123538	1117	210061
Group 2: Crownest	17205	615	132236	11018	2920	...	22021	220378	87	409510	1613	...	8188	252940	131887	264000	7118	533350
Group 3: Gallipour	676	...	390	...	...	...	...	...	...	1066	917	...	...	...	...	...	...	1983
Halcourt	216	...	...	...	...	...	...	...	...	216	...	...	...	...	...	...	...	216
Lethbridge	39919	7582	55783	770	7744	...	...	...	...	111806	1322	...	...	22463	...	17684	...	117907
Total	60672	8316	201326	17354	25309	...	29118	361336	1045	707176	7917	673	43182	305869	131887	405222	8265	863517

How the total Output of SUB-BITUMINOUS COAL from the Province was disposed of by areas during 1960

Areas	Sold for Consumption in:						Total Sales	Used under Coll- lery Boilers	Put to Stock	Put to Waste	Lifted from Stock	Lifted from Waste	Total Output
	Alberta	Sask.	British Columbia	Manitoba	Ontario	Quebec	United States						
Group 4:													
Ardley	43932	..	..	..	..	..	..	43932	..	781	..	..	44713
Brooks	10201	..	..	..	..	..	..	10201	..	518	..	..	10201
Carbon	23786	..	..	..	..	..	..	23786	..	..	..	..	24304
Champion	6152	..	..	..	..	..	..	6152	..	84	..	..	6236
Drumheller	128239	176983	89688	56961	9781	157	..	461609	925	647	28359	..	467517
Edmonton	100143	..	279	..	924	..	..	101346	57	..	..	..	101403
Gleichen	2870	..	..	..	..	..	..	2870	..	..	..	..	2870
Pembina	61263	4752	12819	652	..	..	..	79486	..	..	..	..	79486
Taber	15729	9556	25363	3793	78	..	45	54584	..	..	..	..	54564
Wetaskiwin	4088	..	..	..	..	..	..	4088	..	..	..	..	4088
Whitecourt	106	..	..	..	..	..	..	106	..	..	..	..	106
Group 5:													
Camrose	29882	88	48	..	..	..	..	30018	..	979	..	..	30997
Castor	303904	83281	44459	62871	2360	..	1120	497495	82	1640	..	..	499217
Redcliff	2783	..	..	..	..	..	..	2783	284	296	284	..	3079
Sheerness	22194	78530	2910	59821	1853	..	..	165308	..	14129	..	..	179437
Tofield	17797	877	76	120	..	..	..	18870	..	182	..	..	19052
Westlock	12065	..	..	..	..	..	..	12065	596	741	96	..	13306
Total:	785134	354067	175342	184018	14996	157	1165	1511879	33375	19997	28739	..	1510576

How the total Output of SUB-BITUMINOUS COAL was disposed of by months during 1960

Months	Sold for Consumption in:							Used under Colliery Boilers	Put to Stock	Put to Waste	Lifted from Stock	Lifted from Waste	Total Output
	Alberta	Sask.	British Columbia	Manitoba	Ontario	Quebec	United States						
January	110467	58903	23907	27190	1996	40	258	142	1509	820	3417	...	221815
February	89700	30722	13464	19418	1289	...	51	142	385	547	2837	...	152881
March	76517	26503	13609	16591	941	...	151	107	721	167	497	...	135110
April	16120	9129	8112	5193	774	...	...	75	866	88	1388	...	38869
May	12538	4335	8049	1984	75	...	50	50	3876	74	786	...	30225
June	14018	4918	5593	1035	340	...	...	42	5609	26	641	...	31530
July	17558	2534	4302	1185	206	...	...	32	1910	7	599	...	27135
August	30462	13189	10998	5863	1256	...	103	35	1665	30	570	...	63031
September	56562	39769	19069	21690	2067	...	101	77	2442	3376	1504	...	143849
October	106559	66819	20376	33255	2034	40	199	101	11233	5650	7563	...	238703
November	149713	61275	28246	31085	2544	77	100	124	2145	6117	7207	...	271499
December	104320	35971	19617	19569	1484	...	152	137	1044	2795	1730	...	183329
Total:	785134	354067	175342	184018	14996	157	1165	1064	33375	19997	28739	...	1540576
% of Total Sales	51.84	23.37	11.57	12.14	1.00	0.01	0.07						

OUTPUT AND NUMBER OF MINES PRODUCING

Kind of Coal	Under 1,000 Tons		1,000 to 5,000 Tons		5,000 to 10,000 Tons		10,000 to 50,000 Tons		50,000 to 100,000 Tons		100,000 to 150,000 Tons		150,000 to 200,000 Tons		200,000 to 300,000 Tons		Over 300,000 Tons		Total	
	No.	Output	No.	Output	No.	Output	No.	Output	No.	Output	No.	Output	No.	Output	No.	Output	No.	Output	No.	Output
Bituminous...	3	710	3	6139	...	...	1	23,845	2	150,441	4	472,321	...	...	1	210,061	...	...	14	863,517
Sub-bituminous..	17	5,815	10	24,107	6	41,443	14	272,030	2	116,209	1	101,033	4	688,691	1	291,278	...	...	55	1,540,576
Total.....	20	6,525	13	30,246	6	41,443	15	295,875	4	266,650	5	573,354	4	688,691	2	501,339	...	...	69	2,404,093

PER CAPITA PRODUCTION OF MINES BY AREAS

BITUMINOUS COAL FIELD

Areas	Strip and Underground Mining						Strip Mining						Underground Mining					
	Gross tons of coal mined	Total Average No. of men employed	Tons of coal mined per man employed	Total No. of Man-shifts	Tons of coal mined per eight hour man-shift		Gross tons of coal mined	Total Average No. of men employed	Tons of coal mined per man employed	Total No. of Man-shifts	Tons of coal mined per eight hour man-shift		Gross tons of coal mined	Total Average No. of men employed	Tons of coal mined per man employed	Total No. of Man-shifts	Tons of coal mined per eight hour man-shift	
Group 1:																		
Cascade.....	210,061	230	913	52,402	4.01								210,061	230	913	52,402	4.01	
Group 2:																		
Crowsnest.....	533,350	481	1,109	109,205	4.88		200,231	61	3,282	13,081	15.31		333,119	420	793	96,124	3.46	
Group 3:																		
Coalspur.....	1,983	5	397	860	2.31		1,592	1	1,592	287	5.54		391	4	98	573	.68	
Halcourt.....		2	108	62	3.48		216	2	108	62	3.48							
Lethbridge.....	117,507	161	732	28,544	4.14								117,907	161	732	28,544	4.14	
Total.....	863,517	879	982	191,073	4.52		202,039	64	3,157	13,430	5.04		661,478	815	812	177,643	3.72	

SUB-BITUMINOUS COAL FIELD

Group 4:	144, 713	13	3,439	3,402	13, 14	144, 713	13	3,439	3,402	13, 14	144, 713	13	3,439	3,402	13, 14	144, 713	13	3,439	3,402	13, 14	144, 713	13	3,439	3,402	13, 14	144, 713	13	3,439	3,402	13, 14	144, 713	13	3,439	3,402	13, 14	144, 713	13	3,439	3,402	13, 14	144, 713	13	3,439	3,402	13, 14	144, 713	13	3,439	3,402	13, 14	144, 713	13	3,439	3,402	13, 14	144, 713	13	3,439	3,402	13, 14	144, 713	13	3,439	3,402	13, 14	144, 713	13	3,439	3,402	13, 14	144, 713	13	3,439	3,402	13, 14	144, 713	13	3,439	3,402	13, 14	144, 713	13	3,439	3,402	13, 14	144, 713	13	3,439	3,402	13, 14	144, 713	13	3,439	3,402	13, 14	144, 713	13	3,439	3,402	13, 14	144, 713	13	3,439	3,402	13, 14	144, 713	13	3,439	3,402	13, 14	144, 713	13	3,439	3,402	13, 14	144, 713	13	3,439	3,402	13, 14	144, 713	13	3,439	3,402	13, 14	144, 713	13	3,439	3,402	13, 14	144, 713	13	3,439	3,402	13, 14	144, 713	13	3,439	3,402	13, 14	144, 713	13	3,439	3,402	13, 14	144, 713	13	3,439	3,402	13, 14	144, 713	13	3,439	3,402	13, 14	144, 713	13	3,439	3,402	13, 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SUMMARY

Bituminous.....	863,517	879	191,073	4.52	202,039	64	3,157	13,430	15.04	661,478	815	177,613	3.72
Sub-Bituminous...	1,540,576	850	1,812	8.75	961,811	241	4,074	62,859	15.61	558,765	609	113,038	1.94
Total.....	2,404,093	1,729	366,970	6.55	1,183,850	305	3,881	76,289	15.51	1,220,243	1,424	290,651	4.19

THE MINES DIVISION

AMOUNT OF COAL DISPOSED OF DURING THE YEAR BY AREAS, ACCORDING TO SIZE GRADING
 FOR CONSUMPTION IN ALBERTA

AREA \ SIZE GRADING	RUN OF MINE	LUMP, COBBLE OR EGG	NUT OR STOVE	PRE-PARED STOKER	NUT-SLACK	SLACK	TOTAL BY AREA
Cascade	588	494	9	1420	32	113	2656
Crowsnest	3040	2743	6207	3146	6	2063	17205
Coalspur	675	...	1	...	...	...	676
Halcourt	216	...	...	...	...	...	216
Lethbridge	2239	7939	7971	3035	...	18735	39919
Ardley	5307	9963	15869	9550	2079	1164	43932
Brooks	704	5652	1348	1567	...	930	10201
Carbon	6574	6383	2457	4345	653	3374	23786
Champion	...	1759	1668	2725	...	...	6152
Drumheller	2884	28693	9137	13930	460	73135	128239
Edmonton	1305	34229	34049	16729	...	13831	100143
Gleichen	2870	...	...	...	...	...	2870
Pembina	171	20634	14310	10592	1352	14204	61263
Taber	34	7423	2898	3631	80	1663	15729
Wetaskiwin	1062	1352	882	510	...	282	4088
Whitecourt	106	...	...	...	...	...	106
Camrose	1515	7823	8045	6301	4078	2120	29882
Castor	60675	86113	20944	45532	623	90017	303904
Redcliff	10	2344	355	70	4	...	2783
Sheerness	...	10728	3198	7146	...	1122	22194
Tofield	360	9314	6007	2001	...	115	17797
Westlock	14	5108	3852	2149	333	609	12065
Totals	90349	248694	139207	134379	9700	223477	845806

AMOUNT OF COAL DISPOSED OF DURING THE YEAR BY AREAS, ACCORDING TO SIZE GRADING
FOR CONSUMPTION IN **SASKATCHEWAN**

AREA \ SIZE GRADING	RUN OF MINE	LUMP, COBBLE OR EGG	NUT OR STOVE	PRE-PARED STOKER	NUT-SLACK	SLACK	TOTAL BY AREA
Cascade	36	15	...	38	...	...	89
Crowsnest	...	228	98	...	39	280	645
Lethbridge	435	4654	1566	453	474	...	7582
Drumheller	...	133715	13367	11497	...	18404	176983
Pembina	...	104	...	2439	...	2209	4752
Taber	...	528	163	2756	6109	...	9556
Camrose	...	...	41	47	...	...	88
Castor	...	46530	18364	16965	166	1256	83281
Sheerness	...	17874	24554	24201	...	11901	78530
Tofield	...	208	178	491	...	...	877
Total	471	203856	58331	58887	6788	34050	362383
FOR CONSUMPTION IN BRITISH COLUMBIA							
Cascade	...	1209	166	14434	...	108	15917
Crowsnest	...	5901	6596	11165	12818	95756	132236
Goalspur	...	214	40	...	...	136	390
Lethbridge	...	15418	11597	27553	528	687	55783
Drumheller	...	61569	5929	22041	...	149	89688
Edmonton	...	238	...	41	...	...	279
Pembina	...	1916	1394	9509	...	...	12819
Taber	...	4390	4086	10957	5005	925	25363
Camrose	...	...	...	48	...	...	48
Castor	...	24545	3385	13044	3185	...	44159
Sheerness	...	479	447	1854	...	130	2910
Tofield	...	36	...	40	...	...	76
Total	...	115915	33640	110686	21536	97891	379668

THE MINES DIVISION

AMOUNT OF COAL DISPOSED OF DURING THE YEAR BY AREAS, ACCORDING TO SIZE GRADING
FOR CONSUMPTION IN MANITOBA

SIZE GRAD- ING AREA	RUN OF MINE	LUMP, COBBLE OR EGG	NUT OR STOVE	PRE- PARED STOKER	NUT- SLACK	SLACK	TOTAL BY AREA
Cascade	...	40	...	2518	...	...	2558
Crowsnest	3054	1227	753	2718	5588	678	14018
Lethbridge	...	656	87	35	...	...	778
Drumheller	...	51523	1108	4330	...	...	56961
Pembina	...	42	...	610	...	...	652
Taber	...	1468	764	1561	...	...	3793
Castor	...	29571	944	32156	...	...	62671
Sheerness	...	19540	6398	33883	...	...	59821
Tofield	...	12	...	108	...	...	120
Total	3054	104079	10054	77919	5588	678	201372
FOR CONSUMPTION IN	ONTARIO						
Cascade	...	717	2758	4485	6685	...	14645
Crowsnest	...	36	1995	889	...	...	2920
Lethbridge	...	4782	2922	40	...	...	7744
Drumheller	...	9168	456	157	...	...	9781
Edmonton	...	924	...	...	...	...	924
Taber	...	78	...	...	...	...	78
Castor	...	2124	...	236	...	...	2360
Sheerness	...	1853	...	...	...	...	1853
Total	...	19682	8131	5807	6685	...	40305
FOR CONSUMPTION IN	QUEBEC						
Drumheller	...	157	...	...	...	...	157

AMOUNT OF COAL DISPOSED OF DURING THE YEAR BY AREAS, ACCORDING TO SIZE GRADING
FOR CONSUMPTION IN UNITED STATES

[illegible]

PRODUCTION OF COAL PER EIGHT-HOUR MAN-SHIFT
For the Years 1941 to 1960 Inclusive

Year	Gross tons of coal mined	Total No. of Eight-hour Man-shifts	Average No. of tons of coal mined Per Eight-hour Shift
1941.....	6,970,064	1,877,968	3.711
1942.....	7,754,279	2,229,655	3.477
1943.....	7,677,982	2,200,426	3.489
1944.....	7,427,433	2,034,155	3.651
1945.....	7,801,248	1,990,452	3.919
1946.....	8,824,455	2,105,511	4.191
1947.....	8,074,596	1,998,002	4.041
1948.....	8,111,013	1,894,837	4.280
1949.....	8,616,983	1,910,922	4.510
1950.....	8,118,206	1,735,316	4.678
1951.....	7,661,276	1,683,061	4.552
1952.....	7,194,472	1,522,264	4.726
1953.....	5,917,423	1,141,531	5.184
1954.....	4,859,136	943,558	5.150
1955.....	4,456,578	783,239	5.690
1956.....	4,329,639	750,318	5.770
1957.....	3,155,354	535,346	5.894
1958.....	2,519,939	386,636	6.517
1959.....	2,549,517	377,870	6.747
1960.....	2,404,093	366,970	6.551

AMOUNT OF MINE TIME USED DURING THE YEAR

BITUMINOUS COAL FIELD

Area	Timber lineal feet	Lumber B.M. feet	Lagging lineal feet	Ties lineal feet	Sprags lineal feet
Group 1: Cascade.....	431,588	...	285,844	14,864	...
Group 2: Crowsnest.....	745,574	992,149	305,852	10,070	11,639
Group 3: Coalspur.....	6,200	10,000	9,216	...	...
Lethbridge.....	81,804	17,869	...	5,001	...
Total.....	1,265,166	1,020,018	600,912	29,935	11,639

SUB-BITUMINOUS COAL FIELD

Group 4: Carbon.....	77,699	2,800	5,800	7,160	...
Champion.....	19,428	...	22,460	...	...
Drumheller.....	1,095,500	28,168	...	96,873	...
Edmonton.....	188,202	27,495	15,360	23,018	362
Gleichen.....	6,500	...	...	900	...
Group 5: Castor.....	3,100	6,300	500	660	...
Redcliff.....	8,766	...	1,208	...	...
Total.....	1,399,195	64,763	45,328	128,611	362

PARTICULARS OF LAMPS IN THE BITUMINOUS AND SUB-BITUMINOUS COAL FIELDS DURING THE YEARS 1959 and 1960

BITUMINOUS COAL FIELD

	1959	1960
Portable Electric Lamps, Edison Cap Type....	975	1,049
Wolfe Flame Type.....	97	79
Total.....	1,072	1,128

SUB-BITUMINOUS COAL FIELD

Portable Electric Lamps, Edison Cap Type....	1,059	799
Wolfe Flame Type.....	100	77
Total.....	1,159	876

THE MINES DIVISION

QUANTITY OF EXPLOSIVES USED IN POUNDS FOR BLASTING COAL

BITUMINOUS COAL FIELD

Area	Name of Explosives							Total
	Pellet	Monobel	BL-100	CXL-ite	Airdox	Cardox	Forcite	
Group 1:								
Cascade.....	...	51,800	...	...	...	...	...	51,800
Group 2:								
Crownsnest...	...	9,191	280	...	...	...	...	9,471
Group 3:								
Goalspur....	...	126	...	...	...	...	...	126
Halcourt....	100	...	...	...	...	...	...	100
Lethbridge..	150	9,764	...	...	9,799	...	...	19,713
Total.....	250	70,881	280	...	9,799	...	...	81,210

SUB-BITUMINOUS COAL FIELD

Group 4:								
Ardley.....	...	6,270	...	...	...	...	...	6,270
Brooks.....	1,600	...	1,125	...	...	...	...	2,725
Carbon.....	3,666	1,400	...	...	...	...	500	5,566
Champion....	1,750	200	...	...	...	...	...	1,950
Drumheller..	1,822	5,095	...	25	33,628	...	...	40,570
Edmonton....	...	14,798	...	...	...	...	...	14,798
Gleichen....	480	7	...	...	...	...	...	487
Pembina.....	...	8,089	...	...	...	...	...	8,089
Wetaskiwin..	...	1,200	...	...	...	...	...	1,200
Group 5:								
Camrose.....	...	680	...	...	...	...	...	680
Castor.....	434	9,430	...	...	...	...	...	9,864
Redcliff....	620	...	...	...	...	...	...	620
Sheerness...	...	...	...	...	...	...	550	550
Tofield.....	...	1,800	...	...	...	...	1,312	3,112
Westlock....	...	300	...	...	...	...	...	300
Total.....	10,372	49,269	1,125	25	33,628	...	2,362	96,781

ESTIMATED NUMBER OF SHOTS FIRED FOR BLASTING COAL

BITUMINOUS COAL FIELD

Area	Electric Detonators	Electric Squibs	Cardox Heaters	Total
Group 1:				
Cascade.....	57,374	...	...	57,374
Group 2:				
Crowsnest.....	9,090	...	...	9,090
Group 3:				
Coalspur.....	133	...	...	133
Halcourt.....	...	200	...	200
Lethbridge.....	14,852	150	9,799	24,801
Total.....	81,449	350	9,799	91,598

SUB-BITUMINOUS COAL FIELD

Group 4:				
Ardley.....	5,500	...	...	5,500
Brooks.....	1,160	1,453	...	2,613
Carbon.....	3,658	4,699	...	8,357
Champion.....	200	1,700	...	1,900
Drumheller.....	9,689	2,635	...	12,324
Edmonton.....	17,091	...	...	17,091
Gleichen.....	7	921	...	928
Pembina.....	4,198	...	...	4,198
Wetaskiwin.....	3,187	...	...	3,187
Group 5:				
Camrose.....	835	...	...	835
Castor.....	10,964	385	...	11,349
Redcliff.....	...	521	...	521
Sheerness.....	866	...	...	866
Tofield.....	1,322	...	...	1,322
Westlock.....	278	...	...	278
Total.....	58,955	12,314	...	71,269

NUMBER OF MISSED FIRE SHOTS RECORDED IN BLASTING COAL

Camrose.....	2	...	...	2
Carbon.....	2	9	...	11
Cascade.....	2	...	...	2
Castor.....	1	5	...	6
Champion.....	...	2	...	2
Drumheller.....	1	...	...	1
Halcourt.....	...	5	...	5
Sheerness.....	3	...	...	3
Tofield.....	1	...	...	1
Wetaskiwin.....	3	...	...	3
Total.....	15	21	...	36

NUMBER OF TONS OF COAL PRODUCED PER POUND OF
EXPLOSIVES USED

BITUMINOUS COAL FIELD

Area	Number of tons of coal mined	Number of pounds of Explosives used	Tons of coal mined per pound of explosive used
Group 1:			
Cascade.....	210,061	51,800	4.06
Group 2:			
Crowsnest.....	533,350	9,471	56.31
Group 3:			
Coalspur.....	1,983	126	15.74
Halcourt.....	216	100	2.16
Lethbridge.....	117,907	19,713	5.98
Total.....	863,517	81,210	10.63

SUB-BITUMINOUS COAL FIELD

Group 4:			
Ardley.....	44,713	6,270	7.12
Brooks.....	10,201	2,725	3.74
Carbon.....	24,304	5,566	4.37
Champion.....	6,236	1,950	3.20
Drumheller.....	467,517	40,570	11.51
Edmonton.....	101,403	14,798	6.85
Gleichen.....	2,870	487	5.89
Pembina.....	79,486	8,089	9.83
Taber.....	54,564	...	...
Wetaskiwin.....	4,088	1,200	3.41
Whitcourt.....	106	...	...
Group 5:			
Camrose.....	30,997	680	45.58
Castor.....	499,217	9,864	50.61
Redcliff.....	3,079	620	4.97
Sheerness.....	179,437	550	326.25
Tofield.....	19,052	3,112	6.12
Westlock.....	13,306	300	44.35
Total.....	1,540,576	96,781	15.92

QUANTITY OF EXPLOSIVES USED IN POUNDS FOR BLASTING ROCK
IN COAL MINES

BITUMINOUS COAL FIELD

Area	Pellet	Monobel	BL-100	CXL-ite	Airdox	Cardox	Forcite	Total
Group 1: Cascade.....	300	2,750	...	...	...	3,050
Group 2: Crownsnest....	...	150	...	1,319	...	...	5,460	6,929
Total.....	...	150	300	4,069	...	...	5,460	9,979

SUB-BITUMINOUS COAL FIELD

Group 4:								
Ardley.....	...	3,000	...	...	...	...	...	3,000
Brooks.....	...	6,975	...	...	...	...	...	6,975
Carbon.....	...	200	...	...	...	...	50	250
Drumheller...	...	80	...	75	...	...	...	155
Edmonton.....	...	...	...	432	...	...	...	432
Gleichen.....	123	10	...	...	...	...	...	133
Whitecourt...	...	40	...	...	...	...	...	40
Group 5:								
Castor.....	...	10	...	...	...	...	...	10
Redcliff.....	...	...	42	15	...	...	...	57
Total.....	123	10,315	42	522	...	...	50	11,052

ESTIMATED NUMBER OF SHOTS FIRED FOR BLASTING ROCK
IN COAL MINES

BITUMINOUS COAL FIELD

Area	Electric Detonators	Electric Squibs	Total
Group 1: Cascade.....	3,378	...	3,378
Group 2: Crowsnest.....	3,256	...	3,256
Total.....	6,634	...	6,634

SUB-BITUMINOUS COAL FIELD

Group 4:			
Ardley.....	3,060	...	3,060
Brooks.....	145	...	145
Carbon.....	615	...	615
Drumheller.....	293	...	293
Edmonton.....	366	...	366
Gleichen.....	142	10	152
Whitecourt.....	60	...	60
Group 5:			
Castor.....	20	...	20
Redcliff.....	46	...	46
Total.....	4,747	10	4,757

NUMBER OF MISSED FIRE SHOTS RECORDED IN
BLASTING ROCK IN COAL MINES

Group 4: Ardley.....	5	...	5
Total.....	5	...	5

ELECTRICITY

Area	No. of Mines using Electricity	Horsepower of Electrical Equipment in Use		Total Horsepower	Purchased Power
		Above Ground	Below Ground		
Ardley.....	2	33	...	33	10,000
Brooks.....	1	38	...	38	44,000
Camrose.....	2	85	...	85	68,800
Carbon.....	5	84	95	179	92,482
Cascade.....	1	5,184	260	5,444	8,229,800
Castor.....	5	1,781	41	1,822	2,304,106
Champion.....	1	15	...	15	5,270
Coalspur.....	1	40	...	40	...
Crowsnest.....	7	12,111	1,868	13,979	8,125,496
Drumheller.....	6	3,585	4,203	7,788	4,352,116
Edmonton.....	4	560	864	1,424	306,210
Gleichen.....	2	11	71	82	3,100
Lethbridge.....	1	1,036	924	1,960	1,437,000
Pembina.....	1	121	...	121	99,840
Redcliff.....	1	92	91	183	36,370
Sheerness.....	1	1,445	...	1,445	770,000
Taber.....	1	1,037	...	1,037	279,040
Tofield.....	2	129	...	129	61,595
Westlock.....	1	10	...	10	6,000
Total.....	45	27,397	8,417	35,814	26,231,225

COAL-CUTTING MACHINERY

Area	No. of Machines Operated by:			Tons of Coal Mined by:	
	Electricity	Compressed Air		Electricity	Compressed Air
		Picks	Machines		
Carbon.....	5	...	...	10,754	...
Cascade.....	...	60	...	...	156,668
Castor.....	2	...	1	300	520
Champion.....	...	...	2	...	5,604
Coalspur.....	...	2	...	...	1,983
Crowsnest.....	...	126	...	...	225,080
Drumheller.....	35	...	...	450,578	...
Edmonton.....	14	...	...	82,110	...
Gleichen.....	3	...	...	2,043	...
Lethbridge.....	9	...	...	117,227	...
Redcliff.....	3	...	...	3,079	...
Total.....	71	188	3	666,091	389,855

FATAL ACCIDENTS IN MINES

Nick Capola, haulage worker, 36, on May 18th, at the Vicary Mine, operated by Coleman Collieries Ltd., Coleman. While dumping cars, he was squeezed by mine cars on the tipple, receiving fatal injuries.

Vincent Waluszko, timberman, 62, on July 25th, at the mine operated by West Canadian Collieries Ltd., Bellevue. While repairing the main entry at # 7 Level # 1 Seam he was struck by a flying object from an explosive shot, receiving fatal injuries.

In addition to the above, the following deaths occurred which were not classified as mine fatalities.

Dave Vandergaag, miner, 56, on May 2nd, at the mine operated by Star-Key Mines Limited, Edmonton. While shovelling coal on to the duckbill, he collapsed and died from natural causes.

George Martynnek, miner, 58, on June 16th, at the Greenhill Mine, operated by West Canadian Collieries Ltd., Blairmore. While packing timber into the face, he suddenly collapsed and died from natural causes.

John A. Armstrong, miner, 56, on August 3rd, at the mine operated by Red Deer Valley Coal Co. Ltd., Drumheller. While working at the face, he died from natural causes.

Name of Operator	Area	Above Ground				Below Ground				Total Above and Below Ground
		Fatal	Serious	Slight	Total	Fatal	Serious	Slight	Total	
Bituminous										
The Canmore Mines Limited (2).....	Cascade.....	1	1	..	3	6	9	10
Coleman Collieries Ltd. (204).....	Crowsnest.....	1	1	1
Coleman Collieries Ltd. (1747).....	Crowsnest.....	1	..	1	1	..	2	1	3	4
West Canadian Collieries Ltd. (87).....	Crowsnest.....	1	1	1	3	3
West Canadian Collieries Ltd. (536).....	Crowsnest.....	3	1	4	4
Lethbridge Collieries Limited (1263).....	Lethbridge.....	2	2	4	4
Sub-Bituminous										
Ajax Coal Company (772).....	Redcliff.....	1	1	1
Amalgamated Coals Ltd. (1573).....	Drumheller.....	..	1	1	1	1
R.H. Buzard (1431).....	Gleichen.....	1	1	1
Century Coals Limited (1742).....	Drumheller.....	1	1	2	2
Champion Coal Company Ltd (1509).....	Champion.....	1	1	1
Lucky Strike Mine (1521).....	Gleichen.....	1	1	2	2
Red Deer Valley Coal Co. Ltd. (402).....	Drumheller.....	..	1	..	1	3	3	4
Whitemud Creek Coal Co. Ltd. (1727).....	Edmonton.....	1	..	1	1
Total.....	1	2	1	4	1	14	20	35	39

THE MINES DIVISION

ACCIDENTS AS THEY OCCURRED BY MONTHS DURING THE YEAR 1960

Months	Above Ground				Below Ground				Total Above and Below Ground
	Fatal	Serious	Slight	Total	Fatal	Serious	Slight	Total	
January.....	..	2	..	2	..	1	2	3	5
February.....	1	1	1
March.....	1	1	..	3	2	5	6
April.....
May.....	1	..	..	1	..	2	1	3	4
June.....	3	2	5	5
July.....	1	..	4	5	5
August.....	2	1	3	3
September.....	2	2	2
October.....	1	3	4	4
November.....	1	1	2	2
December.....	1	1	2	2
Total.....	1	2	1	4	1	14	20	35	39

ACCIDENTS OCCURRING IN THE PROVINCE ABOVE AND BELOW GROUND DURING THE YEAR 1960

Causes	Above Ground				Below Ground				Total Above and Below Ground
	Fatal	Serious	Slight	Total	Fatal	Serious	Slight	Total	
Fall of Coal at Face.....	3	5	8	8
Fall of Rock at Face.....	5	6	11	11
Haulage.....	1	1	1	3	..	2	4	6	9
Ignition of Gas.....	1	..	1	1
Machine Mining.....	2	1	3	3
Mining Coal.....	1	1	1
Miscellaneous.....	..	1	..	1	..	..	3	3	4
Shot Firing.....	1	..	..	1	1
Timbering.....	1	..	1	1
Total.....	1	2	1	4	1	14	20	35	39

ACCIDENTS OCCURRING IN THE PROVINCE ABOVE AND BELOW GROUND FOR THE
YEAR 1960, CLASSIFIED ACCORDING TO THE AREA IN WHICH THEY OCCURRED

BITUMINOUS

Area	Above Ground				Below Ground				Total Above and Below Ground
	Fatal	Serious	Slight	Total	Fatal	Serious	Slight	Total	
Cascade.....	..	..	1	1	..	3	6	9	10
Crowsnest.....	1	..	..	1	1	6	4	11	12
Lethbridge.....	..	..	..	..	..	2	2	4	4
Total.....	1	..	1	2	1	11	12	24	26

SUB-BITUMINOUS

Champion.....	..	..	..	..	..	..	1	1	1
Drumheller.....	..	2	..	2	..	1	4	5	7
Edmonton.....	..	..	..	..	..	1	..	1	1
Gleichen.....	..	..	..	..	..	1	2	3	3
Redcliff.....	..	..	..	..	..	..	1	1	1
Total.....	..	2	..	2	..	3	8	11	13

THE MINES DIVISION

NUMBER OF TONS PRODUCED PER ACCIDENT

BITUMINOUS COAL FIELD

Area	Output	No. of Tons Produced Per Accident			
		Fatal	Serious	Slight	Total
Group 1:					
Cascade.....	210,061	...	70,020	30,009	21,006
Group 2:					
Crownsnest.....	533,350	266,675	88,891	138,337	46,112
Group 3:					
Coalspur.....	1,983	...	...	...	...
Halcourt.....	216	...	...	...	...
Lethbridge.....	117,907	...	58,954	58,954	29,477
Total.....	863,517	431,759	78,501	66,424	33,212

SUB-BITUMINOUS COAL FIELD

Group 4:					
Ardley.....	44,713	...	...	...	...
Brooks.....	10,201	...	...	...	...
Carbon.....	24,304	...	...	...	...
Champion.....	6,236	...	...	6,236	6,236
Drumheller.....	467,517	...	155,839	116,879	66,788
Edmonton.....	101,403	...	101,403	...	101,403
Gleichen.....	2,870	...	2,870	1,435	957
Pembina.....	79,486	...	...	...	...
Taber.....	54,564	...	...	...	...
Wetaskiwin.....	4,088	...	...	...	...
Whitecourt.....	106	...	...	...	...
Group 5:					
Camrose.....	30,997	...	...	...	...
Castor.....	499,217	...	...	...	...
Redcliff.....	3,079	...	...	3,079	3,079
Sheerness.....	179,437	...	...	...	...
Tofield.....	19,052	...	...	...	...
Westlock.....	13,306	...	...	...	...
Total.....	1,540,576	...	308,115	192,572	118,506

SUMMARY

Bituminous.....	863,517	431,759	78,501	66,424	33,212
Sub-Bituminous.....	1,540,576	...	308,115	192,572	118,506
Total.....	2,404,093	1,202,047	150,256	114,481	61,643

CLASSIFICATION OF ACCIDENTS ACCORDING TO OUTPUT OF MINES WHICH PRODUCED DURING THE YEAR 1960

Accidents	Under 1,000 tons	1,000 to 5,000 tons	5,000 to 10,000 tons	10,000 to 50,000 tons	50,000 to 100,000 tons	100,000 to 150,000 tons	150,000 to 200,000 tons	200,000 to 300,000 tons	Over 300,000 tons	Total
Fatal.....	1	1	...	...	...	2
Serious.....	...	1	...	1	1	6	4	3	...	16
Slight.....	...	3	1	1	1	5	3	7	...	21
Total.....	...	4	1	2	3	12	7	10	...	39

TONS OF COAL PRODUCED PER ACCIDENT

Fatal.....	...	...	...	...	266,650	573,354	...	...	...	1,202,047
Serious.....	...	30,246	...	295,875	266,650	95,559	172,173	167,113	...	150,256
Slight.....	...	10,082	41,413	295,875	266,650	114,671	229,564	71,620	...	114,481
Total.....	...	7,562	41,413	147,938	88,883	47,779	98,384	50,134	...	61,643

ACCIDENTS

Summary Table showing Accidents occurring in the Mines from 1941 to 1960 inclusive, reportable under The Coal Mines Regulation Act.

Year	Output	Accidents			Tons of Coal Mined Per Accident		
		Fatal	Serious	Slight	Fatal	Serious	Slight
1941.....	6,970,064	48	78	142	145,209	89,360	49,084
1942.....	7,754,279	17	92	148	456,134	84,285	52,393
1943.....	7,677,982	25	73	152	307,119	105,178	50,513
1944.....	7,427,433	10	70	125	742,743	106,106	59,419
1945.....	7,801,248	23	51	168	339,185	154,925	46,436
1946.....	8,824,455	12	76	128	735,371	116,111	68,941
1947.....	8,074,596	15	121	117	538,306	66,732	69,014
1948.....	8,111,013	13	91	93	623,924	89,132	87,215
1949.....	8,616,983	13	89	108	662,076	96,708	79,694
1950.....	8,118,206	20	86	97	405,910	94,398	83,693
1951.....	7,661,276	9	85	53	851,253	90,133	144,552
1952.....	7,194,472	7	79	79	1,027,782	91,069	91,069
1953.....	5,917,423	10	59	60	591,742	100,295	98,623
1954.....	4,859,136	8	51	41	607,392	95,277	118,516
1955.....	4,456,578	3	54	52	1,485,526	82,529	85,703
1956.....	4,329,639	6	34	33	721,607	127,342	131,201
1957.....	3,155,354	2	25	15	1,577,677	126,214	210,357
1958.....	2,519,939	6	19	8	449,990	132,628	314,992
1959.....	2,549,517	1	18	10	2,549,517	141,639	254,952
1960.....	2,404,093	2	16	21	1,202,047	150,256	114,481

COMPARISON OF PROTECTIVE CLOTHING USED FOR THE YEARS
1958, 1959 and 1960.

Clothing	1958	1959	1960
Hard Hats.....	1,696	1,710	1,575
Safety Shoes, pair.....	1,378	1,350	1,142
Goggles, pairs.....	242	248	214
Knee Pads, pairs.....	105	74	80

Comparison of Accidents per 1,000,000 tons and per 1,000 men employed, 1911 - 60.

Year	Tonnage	Total No. of men employed	Fatal Accidents			Serious Accidents			Slight Accidents			Total		
			No.	Per 1,000,000 tons	Per 1,000 men employed	No.	Per 1,000,000 tons	Per 1,000 men employed	No.	Per 1,000,000 tons	Per 1,000 men employed	No.	Per 1,000,000 tons	Per 1,000 men employed
1911.....	6,970,064	7,714	48	6.80	6.22	78	11.19	10.11	142	20.37	18.41	268	38.73	34.74
1912.....	7,754,279	8,040	17	2.19	2.11	92	11.86	11.44	148	19.09	18.40	257	33.11	31.95
1913.....	7,677,982	8,636	25	3.26	2.87	73	9.51	8.45	152	19.80	17.60	250	32.56	28.95
1914.....	7,427,433	8,375	10	1.34	1.19	70	9.42	8.35	125	16.83	14.92	205	27.60	24.47
1915.....	7,801,248	8,309	23	2.93	2.76	51	6.53	6.13	168	21.53	20.24	243	31.02	29.12
1916.....	8,824,455	8,583	12	1.36	1.39	76	8.61	8.85	128	14.50	14.91	216	24.47	25.16
1917.....	8,074,596	8,772	15	1.86	1.71	121	14.98	13.79	117	14.49	13.33	253	31.33	28.84
1918.....	8,111,013	8,865	13	1.60	1.47	91	11.22	10.27	93	11.47	10.49	197	24.29	22.22
1919.....	8,616,983	8,682	13	1.51	1.50	89	10.33	10.25	108	12.53	12.44	210	24.37	24.19
1920.....	8,118,206	7,999	20	2.46	2.50	86	10.59	10.55	97	11.95	12.13	203	25.01	25.38
1921.....	7,661,276	7,339	9	1.17	1.23	85	11.09	11.58	53	6.92	7.22	147	19.19	20.03
1922.....	7,194,472	6,936	7	0.97	1.01	79	10.98	11.39	79	10.98	11.39	165	22.93	23.79
1923.....	5,917,423	5,760	10	1.69	1.74	59	9.97	10.24	60	10.14	10.42	129	21.80	22.40
1924.....	4,859,136	4,719	8	1.65	1.70	51	10.49	10.81	41	8.43	8.69	100	20.50	21.19
1925.....	4,456,578	3,801	3	0.67	0.79	54	12.12	14.21	52	11.67	13.68	109	24.46	28.68
1926.....	4,329,639	3,443	6	0.67	1.74	34	7.85	9.88	33	7.62	9.58	73	16.86	21.20
1927.....	3,155,934	2,795	2	0.63	0.72	25	7.92	8.94	15	4.75	5.37	42	13.31	15.03
1928.....	2,519,939	2,021	6	2.38	2.97	19	7.54	9.40	8	3.17	3.96	33	13.10	16.33
1929.....	2,519,517	1,720	1	0.39	0.58	18	7.07	10.46	10	3.92	5.82	29	11.37	16.86
1930.....	2,404,093	1,729	2	0.83	1.16	16	6.66	9.25	21	8.74	12.14	39	16.22	22.55

THE MINES DIVISION

LIST OF PROSECUTIONS INSTITUTED UNDER THE COAL MINES REGULATION ACT, FOR THE YEAR ENDING DECEMBER 31, 1960

Mine in which Contravention was Committed	Description of Defendant	Offence Charged	Result of Proceedings	Penalty	Costs
The Black Nugget Coal Co. Ltd.....	Manager....	Did fail to send in monthly statement of production.....	Convicted...	Fined \$20.00...	\$2.50
West Canadian Collieries Ltd.....	Miner.....	Did commit a dangerous act by rushing on to slope while cars were moving on slope.....	Convicted...	Fined \$10.00...	\$3.00
West Canadian Collieries Ltd.....	Miner.....	Did commit a dangerous act by rushing on to slope while cars were being hoisted.....	Convicted...	Fined \$10.00...	\$3.00
West Canadian Collieries Ltd.....	Miner.....	Did commit a dangerous act by rushing on to slope while cars were moving on slope.....	Convicted...	Fined \$10.00...	\$3.00
West Canadian Collieries Ltd.....	Miner.....	Did commit a dangerous act by rushing on to slope while cars were moving on slope.....	Convicted...	Fined \$10.00...	\$3.00
West Canadian Collieries Ltd.....	Timber Packer.....	Did commit a dangerous act by rushing on to slope while cars were moving on slope.....	Convicted...	Fined \$10.00	\$2.50
West Canadian Collieries Ltd.....	Timber Packer.....	Did commit a dangerous act by rushing on to slope while cars were moving on slope.....	Convicted...	Fined \$10.00	\$2.50

BOARD OF EXAMINERS

The Board of Examiners during the year 1960 consisted of the following:

As representing:

The Mine Inspectorate: J.A. Dutton, Director of Mines.
 Managers: H. Crawford and P.M. Ramsay.
 Working Miners: H.R. Sherwood and G.B. Hunter.
 Secretary: M.B. Rasmussen.

Examinations for the following classes of certificates were held in Edmonton and Calgary on June 7th, 1960.

Four candidates presented themselves for examination for Third Class (Underground) Certificates and two were successful.

One candidate presented himself for examination for Second Class Mine Electrician's Certificate and he was successful.

Two candidates presented themselves for examination for Manager's (Strip Mine) Certificates, and both were successful.

Three candidates presented themselves for examination for Foremen's (Strip Mine) Certificates, and were successful.

Two candidates presented themselves for examination for Blaster's (Strip Mine) Certificates, and were successful.

The following list gives the names of successful candidates.

UNDERGROUND MINES

THIRD CLASS

Name	Address	Cert. No.	Date of Certificate
Krizan, Paul S.	Canmore	13	30- 6-60
LaRocque, Garfield	Edmonton	14	30- 6-60

SECOND CLASS MINE ELECTRICIAN

Labuda, Joseph K.	Wabamun	4	30- 6-60
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STRIP MINES

MANAGER

Bish, Walter H.	Forestburg	5	30- 6-60
Doerr, Charles F.	Calgary	6	4- 7-60

THE MINES DIVISION

FOREMAN

** Cordel, Emile G.	Halkirk
** Feldman, Frank J.	Warburg
** Wagar, Lee	Halkirk

BLASTER

** Lickoch, Stephen J.	Camrose
** Strader, James B.	Halkirk

** Certificate not issued as at December 31st, 1960.

In addition to the foregoing, the following certificate was issued to a candidate successful in the examinations held in June, 1959.

STRIP MINES

FOREMAN

Brenneis, Leo F.	Morinville	18	29- 1-60
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EXAMINATIONS UNDER THE QUARRIES REGULATION ACT

Written examinations for certificates under the above act were held at Edmonton and Calgary, on June 7th, 1960.

One candidate presented himself for examination for Manager's Certificate and was successful.

Six candidates presented themselves for examination for Foremen's Certificates, and four were successful.

The following list gives the names of successful candidates.

QUARRIES

MANAGER

Name	Address	Cert. No.	Date of Certificate
Belanger, James F.	Medicine Hat	19	10- 6-60

FOREMEN

Bierlmeier, William G.	Edmonton	26	10- 6-60
Farries, Melvin R.	Edmonton	27	10- 6-60
Kollross, Josef	Redcliff	28	10- 6-60
Sheldon, James L.	Exshaw	25	10- 6-60

The following list gives the names of successful candidates, by oral examination, for Quarry Blasters' Certificates.

BLASTER

Todd, Alexander F.	Calgary	51	29- 2-60
Parsons, Ernest A.	Wetaskiwin	52	29- 3-60
Dryhorub, Zonko	Canmore	53	5- 5-60
Misura, Basil	Exshaw	54	30- 5-60
Watson, Harold F.	Cadomin	55	5-10-60

THE MINES DIVISION

REPORT OF ANALYSIS OF COMMERCIAL COAL SAMPLES

Samples taken during 1960 and published in accordance with Regulation 17 (5) of The Coal Sales Regulations established pursuant to The Coal Sales Act.

BATTLE RIVER COAL CO. LTD.

MINE NO. 1046

Size	Lump +4½" rd.	Egg 4½ x 2" rd.	Nut 2 x 1½" rd.	Stoker 1½ x ¾" rd.
Proximate Analysis				
Moisture	24.1	25.4	24.8	26.7
Ash	5.4	5.8	5.5	5.5
Volatile	30.8	30.6	30.4	29.7
Fixed Carbon	39.7	38.2	39.3	38.1
Sulphur	0.3	0.3	0.4	0.4
Calorific Value .....Btu/lb.	8,980	8,830	8,690	8,560

WEST CANADIAN COLLIERIES LTD.

MINE NO. 87

Size	Stoker 1½ x ¾" sq.	Furnace 6 x 2" sq.
Proximate Analysis		
Moisture	0.9	0.9
Ash	14.5	12.6
Volatile	21.5	23.3
Fixed Carbon	63.1	63.2
Sulphur	0.3	0.4
Calorific Value .....Btu/lb.	12,950	13,140

COLEMAN COLLIERIES LTD.

MINE NO. 204

Size	Furnace 5"rd. x 1½" sq.	Stoker 1½sq. x 5/16" Tyrod	Screening 5/16 x 5/32" Tyrod	Slack -5/32" Tyrod
Proximate Analysis				
Moisture	2.8	4.6	6.7	1.5
Ash	14.5	10.4	11.4	14.6
Volatile	24.8	23.4	22.3	23.7
Fixed Carbon	57.9	61.6	59.6	60.2
Sulphur	0.7	0.5	0.4	0.5
Calorific Value .....Btu/lb.	12,550	12,920	12,440	12,620

FORESTBURG COLLIERIES LTD.

MINE NO. 1578

Size	Lump +4" rd.	Stove 4 x 2" rd.	Nut 2 x 1" rd.	Stoker 1"rd. x 3/8"slot	Slack -3/8" slot
Proximate Analysis					
Moisture	25.5	25.4	25.7	25.6	25.3
Ash	5.2	6.0	5.9	6.2	7.0
Volatile	31.2	30.6	30.4	30.6	30.2
Fixed Carbon	38.1	38.0	38.0	37.6	37.5
Sulphur	0.4	0.4	0.4	0.4	0.4
Calorific Value .....Btu/lb.	8,860	8,820	8,790	8,790	8,770

CANMORE MINES LTD.

MINE NO. 2

Size	Cobble 5 x 2½"	Stove 2½ x 1½"	Chestnut 2"rd. x 1½" sq.	Stoker 1½ x ½" sq.	Buckwheat ½" sq. x 3/16" sl.	Slack -3/16" slot.
Proximate Analysis						
Moisture	1.3	1.6	2.4	3.1	3.8	1.1
Ash	7.4	7.4	8.6	8.5	8.0	7.8
Volatile	13.4	13.4	12.8	12.3	12.1	12.5
Fixed Carbon	77.9	77.6	72.2	76.1	76.1	78.6
Sulphur	0.7	0.7	0.7	0.7	0.7	0.7
Calorific Value .....Btu/lb.	14,280	14,290	13,850	13,770	13,710	14,240

ALBERTA COAL LTD.

MINE NO. 419

Size	Lump +4" rd.	Egg 4 x 2" rd.	Nut 2 x 1½" rd.	Stoker 1½ x 7/16 rd.	Slack -7/16 rd.
Proximate Analysis					
Moisture	19.3	20.5	20.9	20.4	19.6
Ash	10.3	9.1	8.4	9.6	10.5
Volatile	31.0	29.1	30.2	29.7	30.1
Fixed Carbon	39.4	41.3	40.5	40.3	39.8
Sulphur	0.1	0.1	0.1	0.2	0.2
Calorific Value .....Btu/lb.	8,740	8,840	8,850	8,710	8,760

LIST OF MINES OPERATING DURING

The Year 1960

Character of Coal:--Bituminous

MINE NO.	OPERATOR	MINE OFFICE ADDRESS	MINE LOCATION L.S. S. T. R. M.	REGISTERED TRADE NAME	DATE OF OPENING
1588	Halcourt Area Hillside Coal Company.....	Halcourt.....	3-25-70-11-6	Hillside Coal.....	1942
1086 1263	Steve's Mine..... Lethbridge Collieries Ltd...	Magrath..... Shaughnessy.....	8&9- 7 - 7-21-4 11-30-10-21-4	Steve's Mine Coal..... Cadillac Coal, Galt Coal, Imperial Coal.....	1923 1927

LIST OF MINES OPERATING DURING

The Year 1960

Character of Coal :- Sub-bituminous

MINES NO.	OPERATOR	MINES OFFICE ADDRESS	MINES LOCATION L.S. S. T. R. M.	REGISTERED TRADE NAMES	DATE OF OPENING
255 809 1734	Ardley Area Conger Mine..... Alllyn Mann Construction..... John Lyness.....	Alix..... Alix..... Delburne.....	W. $\frac{1}{2}$ of S.W. $\frac{1}{4}$ of 11-22-17-38-23-4 2-39-23-4 7-20-38-23-4	Conger Coal..... Eclipse Coal..... Lyness Coal.....	1910 1919 1953
1404 1672	Brooks Area Kleenbairn Collieries Ltd..... Coral Coals Ltd.....	Bow City..... Rolling Hills.....	Pts. of 15-17-17-4 1-8- 3-14-13-4	Birrwel Coal..... Coral Coal, Rolling Hills Coal.....	1932 1948
724 1603	Camrose Area Burnstad Coal Ltd..... Camrose Collieries Ltd.....	Round Hill..... Camrose.....	N. $\frac{1}{2}$ of 6-14-18-18-4 14-15-17-16-19-4	Burnstad's Coal..... Camcoal, Camrose Coal.....	1917 1943
53 194 710 817 921 1263 1740	Carbon Area Alfred Fox..... Nottal Brothers..... East Trochu Coal Company..... Ben Pickering & Sons..... Erich Riessig..... Halbert Coal Mine..... Nottal Brothers.....	Carbon..... Three Hills..... Trochu..... Ghost Pine Creek..... Trochu..... Trochu..... Three Hills.....	3-14-29-23-4 14-9-31-22-4 10-14-33-23-4 2- 6-31-21-4 15-16-14-33-23-4 8-14-33-23-4 14-14-31-22-4	Carbon Sunrise Coal..... New Ghost Pine Coal..... Tro-Alta Coal..... Orkney Coal..... Meadow Bank Coal..... Comfort Coal..... New Ghost Pine Coal.....	1898 1909 1917 1919 1921 1928 1954

Character of Coal: - Sub-bituminous

MTNE NO.	OPERATOR	MTNE OFFICE ADDRESS	MINE LOCATION L.S. S. T. R. M.	REGISTERED TRADE NAME	DATE OF OPENING
291 902 1046 1248 1578 1597 1614 1752	Castor Area James Chiswick..... O.V. Remillard..... Pattie River Coal Co. Ltd.... E.J. Gerla & W. Range..... Forestburg Collieries Ltd.... J.R. Mills..... Stettler Coal Co. Ltd..... Mitchinson & Famstad.....	Gadsby..... Castor..... Halkirk..... Donalda..... Forestburg..... Heisler..... Halkirk..... Donalda.....	S. $\frac{1}{2}$ of 11&12-28-39-16-4 9-33-37-14-4 15&16-20-40-15-4 10&11-29-41-17-4 6-41-15-4 6-22-42-17-4 11-25-40-16-4 15-28-41-17-4	Sunset Coal..... Remillard Coal..... Cordell Coal, Vesta Coal..... Success Coal..... Diplomat Coal..... Eagle Coal..... All-Fire Coal..... Black Diamond Coal.....	1911 1921 1922 1926 1941 1942 1943 1956
1137 1509	Champion Area Smith Mine..... Champion Coal Co. Ltd.....	Champion..... Champion.....	2&3- 4-16-23-4 4- 3-16-23-4	Smith Coal..... Champion Coal.....	1934 1937
402 1421 1573	Drumheller Area Red Deer Valley Coal Co. Ltd.. Federated Co-operatives Ltd.. Amalgamated Coals Ltd.....	Drumheller..... Drumheller..... East Coulee.....	7-29-20-4 13-11-29-20-4 1-20-27-18-4	Glocoal, #10-5# Coal, Renown Coal..... Hy-Grade Coal, Purity Hard Coal, Jewel.. Meteor Coal, New Star Coal, Western Crown Coal, Western Monarch Coal, New Murray Coal, New Midland Coal, New Rosedale Coal..... Burn Brite Coal..... Cozy Coal..... Subway Coal..... Lion Coal..... Atlas Coal, Commander Coal, New Wild Fire Coal, New Murray Coal..... Utility Coal.....	1913 1933 1947 1947 1948 1956 1960
1599 1655 1666 1668 1742 1756	Burn Brite Coal Company..... J. Makaruk & Partners..... Subway Coal Company..... Victor Leonhardt..... Century Coals Limited..... Utility Coals Ltd.....	Delia..... Drumheller..... Rosedale..... Drumheller..... East Coulee..... Drumheller.....	E. $\frac{1}{2}$ of 9-22-28-18-4 9-22-29-20-4 16-16-28-19-4 3-17-29-19-4 14- 6-27-18-4 2-17-29-20-4		

LIST OF MINES OPERATING DURING

The Year 1960

Character of Coal:- Sub-bituminous

MINES NO.	OPERATOR	MINES OFFICE ADDRESS	MINES LOCATION L.S. S. T. R. M.	REGISTERED TRADE NAME	DATE OF OPENING
* 720 1266 1267 1268 1269 1270 1271	Edmonton Area	Edmonton..... Nanaimo..... W. M. of Morinville..... St. Albert..... Edmonton.....	5-51-25-4 36-54-25-4 36-56-26-4 35-54-25-4 16, 10, 11- 13-52-25-4	Slide Hill Coal..... Black Gem Coal..... Egg Lake Coal..... Star-Key Coal..... Red Hot Coal.....	1960 1927 1911 1915 1952
1431 1521	Gleichen Area	Consumer's Mine..... Lucky Strike Mine.....	3&6-29-26-21-4 11&15-20-26-21-4	Consumer's Coal..... Supreme of The Valley Coal.....	1933 1937
1419 1570 1739	Pembina Area	Wabamun..... Warburg Coal Co. Ltd..... Charles Oertag.....	2&3-15-53-4-5 12-13-49-3-5 10-54-7-5	Blue Flame Coal, Victory Coal..... Pinter Coal..... Pembina Peerless Coal.....	1913 1918 1954
772	Redcliff Area	Medicine Hat.....	1-6-13-6-4	Ajax Coal.....	1918
1413	Sheerness Area	Western Dominion Coal Mines Ltd. S.E. 1/4 of	13-29-13-4	Roselyn Coal, Berry Creek Coal, Volcano Coal.....	1915
* No Production During 1960.					

The Year 1960

Character of Coal: -Sub-bituminous

MINE NO.	OPERATOR	MINE OFFICE ADDRESS	MINE LOCATION L.S. S. T. R. M.	REGISTERED TRADE NAME	DATE OF OPENING
1604	Alberta Coal Sales Limited... Taber Area	Taber.....	1212-10-17-4	Majestic Coal, Southalta Coal.....	1943
215	Jet Construction Ltd.....	Ryley.....	S. $\frac{1}{2}$ of 11-49-18-4	Red Flame Coal.....	1909
1107	Black Nugget Coal Ltd.....	Dodds.....	11-49-18-4	Black Nugget.....	1923
1206	Ryley Coal Co. Ltd.....	Ryley.....	1268 -8-49-17-4	Ryley Coal.....	1925
1624	C. Binder.....	Ryley.....	5 -9-49-17-4	Ryalta Coal.....	1945
	Westlock Area				
1517	Thorhild Coal Mine.....	Abee.....	12213-12-60-21-4	Dandy Coal.....	1937
1523	Picardville Coal Co. (1960) Ltd.	Picardville.....	16-35-58-27-4	Picardville Coal.....	1960
1562	North Point Coal Co. Ltd.....	Thorhild.....	4-12-60-21-4	North Point Coal.....	1939
	Wetaskiwin Area				
1743	Blue Bird Coal Company.....	Leduc.....	12113-20-48-25-4	Blue Bird Coal.....	1956
	Whitecourt Area				
1569	A. Watson.....	Blue Ridge.....	16-24-59-11-5	Blue Ridge Coal.....	1940

LIST OF QUARRIES OPERATING DURING

The Year 1960

QUARRY NO.	OPERATOR	QUARRY OFFICE ADDRESS	QUARRY LOCATION L. S. S. T. R. M.	DATE OF OPENING
Q 2 Q 3 Q 13 Q 15 Q 27 Q 28	Cascade Area Canada Cement Company Limited..... Loders Lime Company Limited..... Foothills Rock Wool Co. Ltd..... Gypsum, Lime & Alastine Canada Limited.. Sil-San Company..... Consolidated Concrete Industries Ltd.....	Exshaw..... Exshaw..... Exshaw..... Calgary..... Exshaw..... Calgary.....	Pts. of 27&28-24-9 -5 Pts. of 25&36-24-9 -5 Pts. of 19&20-24-9 -5 7-26-24-9 -5 7-25-8 -5 17,18,19-25-10-5	1906 1906 1957 1959 1956 1956
Q 37	Castor Area Maggobar Mining Company, Limited.....	Rosalind.....	15&16-31-42-17-4	1958
Q 8	Crowsnest Area Summit Lime Works Ltd.....	Crowsnest, B.C.....	7 -8 -5-5	1920
Q 5 Q 22 Q 43	Edmonton Area Northwest Ceramics Ltd..... Inland Cement Company Limited..... Baroid of Canada, Ltd.....	Edmonton..... Edmonton..... Onaway.....	N.E. $\frac{1}{2}$ of Pts. of 21-53-25-4 15&22-53-25-4 5,7&8-56-2-5	1911 1955 1959
Q 42	Morley Area Burtex Industries Limited.....	Calgary.....	10&11-36-24-5-5	1959

QUARRY NO.	OPERATOR	QUARRY OFFICE ADDRESS	QUARRY LOCATION L.S. S. T. R. M.	DATE OF OPENING
Q 21	Mountain Park Area Inland Cement Company Limited.....	Cadomin.....	13-30-16-23-5	1955
Q 34	Pakowki Area Medicine Hat Brick & Tile Company, Limited..	Medicine Hat.....	5,6,11&12-20-8 -3 -4	1957
Q 39	Medicine Hat Brick & Tile Company, Limited..	Medicine Hat.....	5-20-8-1 -4 -4	1959
Q 45	Medicine Hat Brick & Tile Company, Limited..	Medicine Hat.....	10&15-9 -8 -4 -4	1959
Q 46	Evans, Coleman & Evans Limited	Medicine Hat.....	1&8-18-8 -2 -4	1960
Q 52	Alberta Clay Products Division..... Medicine Hat Brick & Tile Company, Limited..	Medicine Hat.....	12-24-8 -1 -4	1960
Q 4	Redcliff Area Perry Brick & Tile Co. Ltd.....	Redcliff.....	11&15 -5-13 -6 -4	1913
Q 7	Medicine Hat Brick & Tile Company, Limited..	Redcliff.....	9-13 -6 -4	1913
Q 14	Medicine Hat Brick & Tile Company, Limited..	Medicine Hat.....	1&2-31-12 -4 -4	1950
Q 35	Evans, Coleman & Evans Limited Alberta Clay Products Division.....	Medicine Hat.....	27-11 -5 -4	1957
Q 51	Wetaskiwin Area Northwest Ceramics Limited.....	Edmonton.....	1&2-11-17-27 -4	1960
Q 24	No Area Consolidated Concrete Industries Ltd.....	Calgary.....	3,1&5-32-21-29 -4	1956
Q 36	No Area Northwest Ceramics Ltd.....	Edmonton.....	9 5&6-16-66-22 -4	1958
Q 41	Cities Service Athabasca Inc.	Edmonton.....	15-34-92-10 -4	1959

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